

# **OIL ANALYSIS REPORT**

DT

Sample Rating Trend

NO

NORMAL



BM-268

Component **Diesel Engine** 

PETRO CANADA DURON SHP 10W30 (--- GAL)

## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.

#### Wear

All component wear rates are normal.

#### Contamination

There is no indication of any contamination in the oil

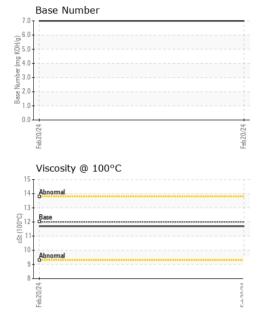
## **Fluid Condition**

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORMATION   method   milibase   current   mistory1   mistory2	GAL)						
Sample Number   Client Info   PCA0110739			-				
Sample Date   Client Info   20 Feb 2024	SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Machine Age         hrs         Client Info         9721            Oil Age         hrs         Client Info         1042            Oil Changed         Client Info         Changed            Sample Status         NORMAL             CONTAMINATION         method         limit/base         current         history1         history2           Fuel         WC Method         >5         <1.0	Sample Number						
Oil Age         hrs         Client Info         1042	•						
Client Info   Changed   Client Info   NORMAL   CONTAMINATION   Method   Sample Status   CONTAMINATION   Method   So. 2   NEG   Contamination   Net   Net   Contamination   Net   Contamination   Net   Net   Contamination   Net   N					-		
CONTAMINATION	•	hrs			-		
Fuel	-		Client Info				
Fuel   WC Method   S5	•				NORMAL		
Water         WC Method         >0.2         NEG             Glycol         WC Method         NEG             WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM D5185m         >100         25             Chromium         ppm         ASTM D5185m         >20         0             Nickel         ppm         ASTM D5185m         >4         0             Silver         ppm         ASTM D5185m         >4         0             Aluminum         ppm         ASTM D5185m         >20         6             Aluminum         ppm         ASTM D5185m         >40         0             Copper         ppm         ASTM D5185m         >15         0             Vanadium         ppm         ASTM D5185m         >15         0             Vanadium         ppm         ASTM D5185m         0         0	CONTAMINAT	ION	method	limit/base	current	history1	history2
WEAR METALS	Fuel		WC Method	>5	<1.0		
WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM D5185m         >100         25	Water		WC Method	>0.2	NEG		
Iron	Glycol		WC Method		NEG		
Chromium	WEAR METAL	S	method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>100	25		
Titanium	Chromium	ppm	ASTM D5185m	>20	0		
Stilver	Nickel	ppm	ASTM D5185m	>4	0		
Aluminum		ppm					
Lead					-		
Copper         ppm         ASTM D5185m         >3330         2             Tin         ppm         ASTM D5185m         >15         0             Vanadium         ppm         ASTM D5185m         <1		ppm			-		
Tin					_		
Vanadium         ppm         ASTM D5185m         <1             Cadmium         ppm         ASTM D5185m         0             ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         2         2             Barium         ppm         ASTM D5185m         0         0             Molybdenum         ppm         ASTM D5185m         50         63             Manganese         ppm         ASTM D5185m         950         1013             Magnesium         ppm         ASTM D5185m         950         1013             Calcium         ppm         ASTM D5185m         950         1173             Phosphorus         ppm         ASTM D5185m         995         1042             Sulfur         ppm         ASTM D5185m         2600         3171             CONTAMINANTS         method         limit/base         current         his							
Cadmium         ppm         ASTM D5185m         0            ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         2         2             Barium         ppm         ASTM D5185m         0         0             Molybdenum         ppm         ASTM D5185m         50         63             Manganese         ppm         ASTM D5185m         0         <1             Magnesium         ppm         ASTM D5185m         950         1013             Calcium         ppm         ASTM D5185m         950         1013             Phosphorus         ppm         ASTM D5185m         995         1042             Zinc         ppm         ASTM D5185m         2600         3171             CONTAMINANTS         method         limit/base         current         history1         history2				>15			
ADDITIVES							
Boron   ppm   ASTM D5185m   2   2   2		ppm			U		
Barium	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum         ppm         ASTM D5185m         50         63             Manganese         ppm         ASTM D5185m         0         <1             Magnesium         ppm         ASTM D5185m         950         1013             Calcium         ppm         ASTM D5185m         1050         1173             Phosphorus         ppm         ASTM D5185m         1042             Zinc         ppm         ASTM D5185m         1180         1245             Sulfur         ppm         ASTM D5185m         2600         3171             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         7             Sodium         ppm         ASTM D5185m         >20         7             Potassium         ppm         ASTM D5185m         >20         7             INFRA-RED         method         limit/base         cur	Boron	ppm	ASTM D5185m	2			
Manganese         ppm         ASTM D5185m         0         <1             Magnesium         ppm         ASTM D5185m         950         1013             Calcium         ppm         ASTM D5185m         1050         1173             Phosphorus         ppm         ASTM D5185m         995         1042             Zinc         ppm         ASTM D5185m         1180         1245             Sulfur         ppm         ASTM D5185m         2600         3171             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         7             Sodium         ppm         ASTM D5185m         >20         7             Potassium         ppm         ASTM D5185m         >20         7             INFRA-RED         method         limit/base         current         history1         history2           Soot %         % <t< td=""><td></td><td>ppm</td><td>ASTM D5185m</td><td>0</td><td>0</td><td></td><td></td></t<>		ppm	ASTM D5185m	0	0		
Magnesium         ppm         ASTM D5185m         950         1013             Calcium         ppm         ASTM D5185m         1050         1173             Phosphorus         ppm         ASTM D5185m         995         1042             Zinc         ppm         ASTM D5185m         1180         1245             Sulfur         ppm         ASTM D5185m         2600         3171             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         7             Sodium         ppm         ASTM D5185m         >20         7             Potassium         ppm         ASTM D5185m         >20         7             INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.8             Nitration         Abs/.1mm         *ASTM D7415 <td>•</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	•						
Calcium         ppm         ASTM D5185m         1050         1173             Phosphorus         ppm         ASTM D5185m         995         1042             Zinc         ppm         ASTM D5185m         1180         1245             Sulfur         ppm         ASTM D5185m         2600         3171             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         7             Sodium         ppm         ASTM D5185m         >20         7             Potassium         ppm         ASTM D5185m         >20         7             INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.8             Nitration         Abs/.1mm         *ASTM D7415         >30         21.5             FLUID DEGRADATION         method         limi	-	ppm					
Phosphorus         ppm         ASTM D5185m         995         1042             Zinc         ppm         ASTM D5185m         1180         1245             Sulfur         ppm         ASTM D5185m         2600         3171             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         7             Sodium         ppm         ASTM D5185m         >20         7             Potassium         ppm         ASTM D5185m         >20         7             INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.8             Nitration         Abs/.1mm         *ASTM D7415         >30         21.5             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm							
Zinc         ppm         ASTM D5185m         1180         1245             Sulfur         ppm         ASTM D5185m         2600         3171             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         7             Sodium         ppm         ASTM D5185m         >20         7             Potassium         ppm         ASTM D5185m         >20         7             INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.8             Nitration         Abs/cm         *ASTM D7624         >20         9.4             Sulfation         Abs/.1mm         *ASTM D7415         >30         21.5             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm							
Sulfur         ppm         ASTM D5185m         2600         3171             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         7             Sodium         ppm         ASTM D5185m         >20         7             Potassium         ppm         ASTM D5185m         >20         7             INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.8             Nitration         Abs/cm         *ASTM D7624         >20         9.4             Sulfation         Abs/.1mm         *ASTM D7415         >30         21.5             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         17.5					_		
CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         7             Sodium         ppm         ASTM D5185m         1             Potassium         ppm         ASTM D5185m         >20         7             INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.8             Nitration         Abs/cm         *ASTM D7624         >20         9.4             Sulfation         Abs/.1mm         *ASTM D7415         >30         21.5             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         17.5					-		
Silicon         ppm         ASTM D5185m         >25         7             Sodium         ppm         ASTM D5185m         1             Potassium         ppm         ASTM D5185m         >20         7             INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.8             Nitration         Abs/cm         *ASTM D7624         >20         9.4             Sulfation         Abs/.1mm         *ASTM D7415         >30         21.5             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         17.5						hiotory1	hiotory?
Sodium         ppm         ASTM D5185m         1             Potassium         ppm         ASTM D5185m         >20         7             INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.8             Nitration         Abs/cm         *ASTM D7624         >20         9.4             Sulfation         Abs/.1mm         *ASTM D7415         >30         21.5             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         17.5							
Potassium         ppm         ASTM D5185m         >20         7             INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.8             Nitration         Abs/cm         *ASTM D7624         >20         9.4             Sulfation         Abs/.1mm         *ASTM D7415         >30         21.5             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         17.5				>25			
INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.8             Nitration         Abs/cm         *ASTM D7624         >20         9.4             Sulfation         Abs/.1mm         *ASTM D7415         >30         21.5             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         17.5				>20			
Soot %         %         *ASTM D7844         >3         0.8             Nitration         Abs/cm         *ASTM D7624         >20         9.4             Sulfation         Abs/.1mm         *ASTM D7415         >30         21.5             FLUID DEGRADATION method limit/base current history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         17.5		ρριιι					
Nitration         Abs/cm         *ASTM D7624         >20         9.4             Sulfation         Abs/.1mm         *ASTM D7415         >30         21.5             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         17.5						history1	history2
Sulfation         Abs/.1mm         *ASTM D7415         >30         21.5             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         17.5							
FLUID DEGRADATION method limit/base current history1 history2  Oxidation Abs/.1mm *ASTM D7414 >25 17.5							
Oxidation			*ASTM D7415	>30	21.5		
	FLUID DEGRA	DATION	method	limit/base	current	history1	history2
Base Number (BN) mg KOH/g ASTM D2896 7.0	Oxidation	Abs/.1mm	*ASTM D7414	>25	17.5		
	Base Number (BN)	mg KOH/g	ASTM D2896		7.0		

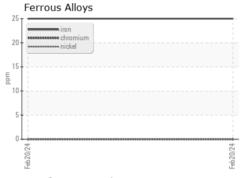


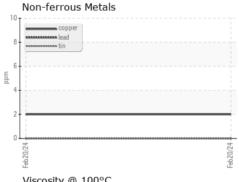
# **OIL ANALYSIS REPORT**

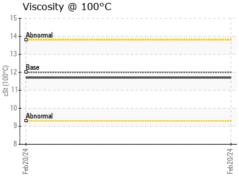


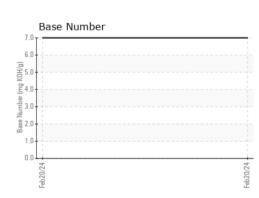
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE		
Yellow Metal	scalar	*Visual	NONE	NONE		
Precipitate	scalar	*Visual	NONE	NONE		
Silt	scalar	*Visual	NONE	NONE		
Debris	scalar	*Visual	NONE	NONE		
Sand/Dirt	scalar	*Visual	NONE	NONE		
Appearance	scalar	*Visual	NORML	NORML		
Odor	scalar	*Visual	NORML	NORML		
<b>Emulsified Water</b>	scalar	*Visual	>0.2	NEG		
Free Water	scalar	*Visual		NEG		
	DTIES		11 11 11			

FLUID PROPE	ERITES	metnoa	ilmit/base	current	nistory i	nistory2
Visc @ 100°C	cSt	ASTM D445	12.00	11.7		











Report Id: BLUCHA [WUSCAR] 06129254 (Generated: 03/27/2024 15:35:24) Rev: 1

Laboratory Sample No.

Lab Number : 06129254 Unique Number : 10943405

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : PCA0110739

Test Package : FLEET

Received : 26 Mar 2024 **Tested** Diagnosed

: 27 Mar 2024 : 27 Mar 2024 - Wes Davis **BLUE MAX TRUCKING** 

1015 E. WESTINGHOUSE BLVD. CHARLOTTE, NC

US 28273 Contact: Jody Greer jgreer@bluemaxtrucking.com

To discuss this sample report, contact Customer Service at 1-800-237-1369. \* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

T: (980)225-9968 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012) F: (704)588-2901